U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

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April 22, 2008

SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Highways and Transit

FROM: Subcommittee on Highways and Transit staff

SUBJECT: Hearing on "Freight Movement from Origin to Destination"

PURPOSE OF HEARING

The Subcommittee on Highways and Transit is scheduled to meet on Thursday, April 24, 2008, at 11:00 a.m., in Room 2167 of the Rayburn House Office Building to receive testimony on freight movement from origin to destination. The Subcommittee will hear from the Vice Chairman of the Technical Oversight Committee of Transportation Research Board's National Cooperative Freight Research Program and executives of third-party logistics providers and intermodal carriers.

This hearing is part of the Subcommittee's effort to prepare for the reauthorization of federal surface transportation programs under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which will expire in September 2009. The design, organization, capacity, and operation of our surface transportation system to move freight efficiently and reliably to its destination is one of the major issues that the Subcommittee will consider in the reauthorization.

BACKGROUND

As the economy and population of the United States have grown, so has the nation's dependence on surface transportation infrastructure. This is particularly true for the growth in freight movement. Since 1970, imports to the U.S. have more than tripled as a share of GDP, while exports have more than doubled. In 2002, U.S. freight carriers moved over 19 billion tons of freight valued at more than $13 trillion, and traveled over 4.4 trillion ton-miles over our transportation network. The U.S. Department of Transportation estimates that by 2035, the volume of freight shipped on the U.S. intermodal transportation system will increase to 33.7 billion metric tons, worth more than $38 trillion—an increase of more than 48 percent.

Advances in logistics have made our nation's roadways real-time warehouses thanks to just–in–time delivery, which builds greater efficiencies and cost savings into the system by allowing businesses to order parts and inventory stock in smaller batches. The growth in congestion on the nation's roadways threatens these efficiency gains. Many segments of the nation's transportation network are currently operating at or near capacity. With future trade volumes expected to more than double across all modes, the nation must develop a strategy and identify the resources to finance the development of the intermodal system that meets these needs.

The Texas Transportation Institute's 2007 Urban Mobility Report demonstrates the impact of the lack of strategy and underinvestment in the nation's surface transportation network. The wasted fuel and time translated into a total congestion cost of $78.2 billion in 2005. Overall, congestion in 2005 caused a total of 4.2 billion hours of travel delay that resulted in an additional 2.9 billion gallons of fuel being used by shippers, travelers, and commuters on congested roadways.

Roadway congestion has also increased logistics costs. According to the Council of Supply Chain Management Professionals, between 2004 and 2005, after 17 years of decline, total logistics costs for U.S. companies increased by $156 billion. Transportation accounts for $744 billion of the $1.18 trillion in total logistics costs. The largest portion of the transportation cost is for truck transportation. The logistics cost relating to intercity trucking reached $394 billion in 2005, up from $335 billion a year earlier. Total logistics costs accounted for 9.5 percent of the Gross Domestic Product in 2005, up from 8.8 percent in 2004.

Transportation Accessibility and Modal Choice

Transportation is used mostly as a means to achieve some objective and is rarely used for its own sake. Individuals use transportation for daily activities, including traveling to work, to school, to obtain health care, or for leisure activities. Businesses use transportation for activities such as delivering freight. The ultimate goal of transportation is not the travel itself, but the access it provides to other activities. In economic parlance, use of the transportation network represents a derived demand. The difference between traveling on the transportation network for its own sake and using the transportation network to reach a desired destination is the difference between transportation *mobility* and transportation *accessibility*.[1]

Operationally, accessibility takes into account the entire journey and endeavors to find the most cost-effective way to go door-to-door. This approach works equally well for moving passengers as for freight, and does not pre-judge which mode is appropriate for a particular movement. Instead of viewing a problem as a highway problem or a transit problem or a rail problem, it is being dealt with simply as a transportation problem. Initially, it leaves open the question of modal choice and concentrates on finding ways—usually, but not always, in an intermodal manner—to get a person or cargo to the desired destination in the most cost-effective manner.

When shippers or carriers transport freight, the objective is to get to the final destination at a desired time. Taking into consideration the entire journey, as opposed to focusing on congestion at discrete locations along the way, could provide a more holistic way to address our transportation

[1] Congressional Research Service Memorandum to Subcommittee staff, August 2, 2007.

logistics challenges. If congestion is anticipated along the way, either the route can be changed or a different mode can be used as part of the pre-trip planning to get around the bottlenecks.[2]

Transporting a shipping container that has arrived at the Port of Los Angeles to a warehouse in Little Rock, Arkansas presents an interesting example to demonstrate the challenges facing both shippers and carriers. The container may leave the port on a truck to a near-dock transfer depot where it is loaded onto a train to travel half way across the country to Little Rock. Alternatively, the container may be loaded on a train at the port that travels on the Alameda Corridor to an intermodal transfer facility in Colton, where it is loaded on a truck for the remainder of the journey to Little Rock. If highway congestion is expected in Dallas-Ft. Worth, the container may be placed on a rail car or it may be hauled by truck but on an alternate route around the metroplex of Dallas-Ft. Worth. The choice is not governed by mode but by what is most cost effective—in other words, the shortest travel time given what the customer is willing to pay.

Obviously, pre-trip planning by the logistics manager in the example above is important. Equally important is transportation planning by agencies at all levels of government as they must respond to private travel decisions and develop programs and projects to accommodate private travel demands.

The decision of how to move people or goods efficiently and cost effectively depends on where the origin and destination are and what congestion challenges (at specific locations) may be present along the way. The options to overcome those challenges include selecting an alternate route, using a different mode of transportation, expanding modal capacity, or rationing existing capacity by means of price. The focus, however, is a much broader one that encompasses the entire journey. Therefore, federal transportation policy in the future may take a more holistic approach, rely more extensively on planning and performance goal-setting at the national level, be geared toward facilitating the efficient and cost-effective movement of people and goods from their origins to their destinations, with special attention paid to smooth transfers at intermodal nodes, and not be preoccupied with tackling traffic congestion at specific bottleneck locations.

Freight Accessibility

The volume of freight movements is determined by the production and consumption of goods and services required to support the national economy. These movements are carried out by various transportation modes. The level of finished goods consumption significantly determines the demand for freight transportation, especially trucking.[3]

Focusing on the number of goods produced in the United States (for both domestic and export markets) and of goods imported into the United States provides valuable insights into the freight traffic pattern and transportation demand. For example, growth in trade (especially rising imports of goods for final consumption) and relative decline in domestic manufacturing, would mean more goods must be moved from our ports directly to distribution centers and final sales

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[2] Changing the time of travel to avoid rush-hour congestion may not be a realistic or viable option as most workers do not have the opportunity to set their work schedules, and cargoes shipped to meet just-in-time requirements are expected to arrive at their destinations at specified times that do not take into consideration rush-hour traffic along the way.

[3] Hudson Institute, *2010 and Beyond: A Vision of America's Transportation Future*, 2004, p. 89.

outlets. This makes the decisions of locating such distribution centers extremely critical to a company's business success. At the same time, it puts enormous pressure on carriers to improve their service flexibility and reliability in response to shippers' business requirements. This also means that the suitability, efficiency, and reliability of connections between the ports, highways, railroads, and intermodal facilities are that much more crucial to the performance of the freight transportation system.[4]

As trade patterns evolve, entirely new trade corridors may need to be developed or existing ones modified or expanded. For instance, the sharp rise in goods imported from China and other Asian countries in recent years has put the performance of our West Coast ports, their connections to more inland transportation networks, and our overall surface transportation system to the test. U.S. international container traffic is expected to triple in the next 20 years. An expansion of the Panama Canal is under construction and estimated to be complete by 2014. This will bring further increases in freight traffic volume to the southeastern U.S. ports of Savannah, Charleston, and Norfolk as well as ports on the Gulf Coast. The performance of the transportation systems that move freight from port to destination will not only determine freight accessibility but, more importantly, our standard of living.

Using data presented in the 2000 Bureau of Transportation Statistics report entitled *The Changing Face of Transportation,* the 2002 *Freight-Rail Bottom Line Report* by the American Association of State Highway and Transportation Officials (AASHTO), and the 2003 American Trucking Associations report entitled *U.S. Freight Transportation Forecast to 2014*, the Hudson Institute has developed the following, admittedly conservative, composite annual growth rates for the various transportation modes, in ton-miles, for the period between 2000 and 2020:

- Trucking 2.5%
- Rail 2.0%
- Barge 0.7%
- Air Freight 4.0%

This means that by the year 2020, our freight transportation system will have to accommodate a 64 percent jump in trucking ton-miles, 49 percent growth in rail ton-miles, a 15 percent increase in barge traffic, and more than double in air freight.[5]

Further, analysis by AASHTO shows that if the rail industry makes investments only enough to maintain its current traffic volume, it will lose market share to other modes including trucking, and the equivalent of 31 billion vehicle-miles will move onto our roads.

This is another way of looking at how an intermodal freight transportation strategy plays out in the real world. It suggests that a comprehensive, coordinated, and balanced approach to transportation planning and investment must be taken by decision-makers at all levels of government.

Since about 1980, highway capacity expansion, measured in terms of either total lane-miles or net capital stock of highways and streets, has fallen well behind the explosive growth in traffic demand, as measured by vehicle-miles traveled. Much of the additional roadway traffic has been

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[4] *Ibid.*, pp. 90-91.
[5] *Ibid.*, p. 103.

accommodated through improved operational efficiency of the roadways and enhanced intermodal transportation services provided by carriers and logistics providers. Today, third-party logistics providers offer trip routing, brokerage, and carriage services to meet their customers' freight movement demands. They are not predisposed to choosing one mode over another in transporting cargoes. Instead, they rely on an intermodal approach and use up-to-the-minute information to help move their customers' goods door-to-door as quickly as possible, consistent with the price their customers are willing to pay.

As manufacturing, distribution, and retailing businesses move to the just-in-time method, inventory control is central to their success. Warehousing is replaced by transportation logistics. Logistics costs have declined over time until 2005, when they rose for the first time in 17 years—from 8.8 percent of GDP in 2004 to 9.5 percent in 2005. For the United States to remain competitive in the global marketplace, our surface transportation system must be constantly upgraded and renewed so that it continues to meet the evolving logistics demands. In fact, the nature of logistics may largely determine the character of our freight transportation system.

PREVIOUS COMMITTEE ACTION

The Subcommittee held a hearing on June 7, 2007, on the problem of congestion facing our nation's surface transportation system and some of the options to deal with the problem. The Subcommittee also held a hearing on January 24, 2007, on the challenges that the surface transportation system likely will face in the future, including freight. In the 109th Congress, the Subcommittee held a hearing on May 10, 2006, on the current state of freight mobility on U.S. highways and the challenges posed by a freight capacity shortage in the near future.

WITNESSES

Mr. C. Randal Mullett
Transportation Research Board
Vice-Chair, Technical Oversight Committee
National Cooperative Freight Research Program
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Mr. Scott Haas
UPS
Vice President of Transportation
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Mr. Michael Uremovich
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Mr. Gary Cardwell
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